

AMENDMENT TO THE CLAIMS

1. to 9. (Canceled)

10. (Currently Amended) A method for halftoning image data for each of plural pixels, comprising the steps of:

selecting one of plural threshold masks based on intensity of the image data for a target pixel plus an accumulated error;

determining a halftone output value for the target pixel based on a comparison between a threshold in the selected threshold mask and the image data plus accumulated error for the target pixel; and

diffusing error between the halftone output value and the image data plus accumulated error for the target pixel, the error being diffused to pixels adjacent the target pixel;

wherein each thresholding mask has only a limited number of threshold levels ~~values~~, with each different one of the plural threshold masks being provided for a different segment of the input intensity range.

11. (Original) A method according to Claim 10, wherein a separate threshold mask is provided for each and every input intensity value.

12. (Original) A method according to Claim 10, wherein the spread of values in each threshold mask varies based on its corresponding intensity level.

13. (Original) A method according to Claim 12, wherein the spread increases at each intensity range corresponding to formation of artifacts.

14. (Original) A method according to Claim 13, wherein at intervening non-integral fractions of the intensity range, the spread is reduced.

15. to 21. (Canceled)

22. (Currently Amended) A method for halftoning image data for each of plural pixels, comprising the steps of:

determining a halftone output value for a target pixel based on a comparison between a threshold and the image data plus accumulated error for the target pixel;

diffusing error between the halftone output value and the image data plus accumulated error for the target pixel;

wherein error is diffused according to error diffusion weights provided for each different segment of the range of input intensities including a segment at a mid-tone segment, and

wherein weights in the mid-tone segments are selected so as to decrease the tendency of the error diffusion process to form regular checkerboard patterns.

23. (Cancelled)

24. (Currently Amended) An apparatus for halftoning image data for each of plural pixels, said apparatus comprising means for performing the functions specified in any of Claims 10 to 14 and 22, ~~to 23~~.

25. (Currently Amended) An apparatus for halftoning image data for each of plural pixels, comprising:

a program memory for storing process steps executable to perform a method according to any of Claims 10 to 14 and 22, and ~~to 23~~; and

a processor for executing the process steps stored in said program memory.

26. (Currently Amended) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for halftoning image data for each of plural pixels, said computer-executable process steps comprising process steps executable to perform a method according to any of Claims 10 to 14 and 22, ~~to 23~~.